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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/743,742      | 12/24/2003  | Yih-Shiaw Huang      | 0941-0891P          | 9109             |

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

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| EXAMINER |
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LARKIN, DANIEL SEAN

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2856

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

06/22/2007


ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

|                              |                               |   |  |
|------------------------------|-------------------------------|---|--|
| <b>Office Action Summary</b> | Application No.<br>10/743,742 | Applicant(s)<br>HUANG ET AL.  |  |
|                              | Examiner<br>Daniel S. Larkin  | Art Unit<br>2856  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-17 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because the phrase "Related Art", as shown in Figures 1A-4C, should be rephrased as -- Prior Art --.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities:

Page 4, line 4: The article -- a -- should be inserted prior to the term "gas".

Page 5, line 1: A -- comma -- should be inserted after the term "measurement".

Page 8 line 4: A -- comma -- should be inserted after the term "Preferably".

Page 19, lines 21 and 26: The phrase "3-5" should be corrected to read  
-- three to five --.

Page 19, lines 23 and 27: The numeral "1" should be corrected to read -- one --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, claim lines 1-30: It is unclear if Applicants are trying to claim an apparatus/system or a method of operating the apparatus/system. Claim lines 3- 10 recite a gas concentration measurement system; however, claim lines 11-30 recite

functional claim language that fail to further limit the structural limitations recited with respect to claim lines 3-10. This functional claim language appears to be a method of operating the measurement system to determine the gas concentration. Apparatus claims by their very nature are defined by their structure and not their intended use or functionality. Method claims are appropriate for detailing the steps for operating the system to determine gas concentration. If Applicants wish to have this functional language considered for patentability, then Applicants are encouraged to use means plus function language.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Admitted Prior Art.

With respect to the limitations of claims 1-4, Applicants' Admitted Prior Art discloses a gas concentration system, comprising: a sensor (500) having a voltage input element (520), an output element (530), and a sensing element (516) having a membrane comprising tin oxide; a pulse power supply module (20) connected to the voltage input element; and a processing device (30) connected to the output element of the sensor. As to the operational steps recited in claim 1, the examiner deems these

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limitations to be functional and do not further limit the structure of the system. Thus, the examiner is giving no patentable weight to these functional limitations. If Applicants wish to have these functional steps considered, then Applicants are encourage to use means plus function language.

***Allowable Subject Matter***

9. The following is an examiner's statement of reasons for allowance:

Prior art was not relied upon to reject claims 5-17 because the prior art fails to teach and/or make obvious a method of pulse-type gas concentration measurement, comprising the steps of: sending a variable pulse to a sensor to output a first signal; determining a detection voltage according to the first signal; sending a square-wave pulse with the detection voltage to the sensor to output a second signal corresponding to the gas; and comparing the second signal with a plurality of chemical matter characteristics signals to determine a second identification result for the gas in combination with all of the remaining limitations of the base claim.

Any comments considered necessary by Applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art to US 6,739,180 (Huang et al.) discloses an intelligent gas identification system, comprising a sensor having a voltage input element, an output element, and a sensing element having a membrane comprising tin oxide; a pulse power supply module connected to the voltage input element; and a processing device connected to the output element of the sensor, whereby the power supply module sends a variable pulse-amplitude modulated voltage to the sensor to generate a signal. The processing device compares the signal to a chemical matter characteristics signal to determine an identification result for the gas.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Larkin  
AU 2856  
18 June 2007



**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**